



Editor - Captain L. B. Marshall, MC, USN (RET)

Vol. 26

Friday, 7 October 1955

No. 7

TABLE OF CONTENTS

Graduate Training in Navy Hospitals	2
Human Relations for Doctors	3
Management of Spontaneous Pneumothorax	8
Reevaluation of Sulfonamide Therapy	10
Iron-Storage Diseases.....	12
Evaluation of ACTH and Cortisone in the Treatment of Burns	14
Routine Postoperative Nasogastric Suction	16
Hyponatremia	17
Gynecography Simplified	19
Chlorpromazine and Cerebral Palsy	21
"Honors"	22
Letter of Commendation.....	23
Nursing Education Program for Hospital Corps Waves	24
From the Note Book	24
Recent Research Projects	27
Nursing Assistant Series, GS-621-0 (BuMed Notice 12,000)	28
Defective Medical and Dental Material (BuMed Inst. 6710.19)	29
Active-Duty Patients' Stay in Naval Hospitals (BuMed Notice 6010)....	29
Professional Periodicals (BuMed Notice 6820)	29
Poliomyelitis, Immunization of Dependents (BuMed Inst. 6230.8)	30
Uncollectible Accounts Receivable (BuMed Inst., 6010.5A).....	30

MEDICAL RESERVE SECTION

Navy's First Senior Medical Student Selected	31
New Curriculum for Hospital Apprentices	31

PREVENTIVE MEDICINE SECTION

Vaccination Against Flu, 1955..	32	Faulty Check Valve Hazards.....	36
The 1954/55 Influenza Epidemic	33	Self-Luminous Marker Hazards..	38
Disinfectants for Navy Use.....	35	Meat Salads and Food Intoxication	39

Graduate Training in Navy Hospitals

Applications for assignment to residency training duty are desired from Regular medical officers and those Reserve medical officers who have completed their obligated service under the Universal Military Training and Service Act, as amended. The following chart lists those Navy hospitals which currently have vacancies at the first year level, and the specialties in which these vacancies exist. Vacancies are also available at other than first year levels. Information concerning non-first year appointments may be obtained by correspondence addressed to the Chief of the Bureau of Medicine and Surgery.

	Bethesda, Md.	Chelsea, Mass.	Oakland, Calif.	Philadelphia, Pa.	Portsmouth, Va.	San Diego, Calif.	St. Albans, N. Y.
Anesthesia	x	x	x				
General Practice		x		x			
Internal Medicine		x	x	x	x	x	x
Neurology	x		x				
Orthopedics	x	x					
Otolaryngology			x	x			
Pathology	x		x	x		x	
Pediatrics			x				
Psychiatry	x		x	x			
Radiology	x	x	x			x	
Surgery***				x	x	x	
Urology							x
Cardio-Vascular Diseases	x						

*** Residency training in General Surgery is currently open to Regular officers only.

Letters of application for first year assignments should be forwarded via official channels to the Chief of the Bureau of Medicine and Surgery, and should include an obligated service agreement prepared in accordance with the provisions of BuMed Instruction 1520.7.

* * * * *

Policy

The U.S. Navy Medical News Letter is basically an official Medical Department publication inviting the attention of officers of the Medical Department of the Regular Navy and Naval Reserve to timely up-to-date items of official and professional interest relative to medicine, dentistry, and allied sciences. The amount of information used is only that necessary to inform adequately officers of the Medical Department of the existence and source of such information. The items used are neither intended to be nor susceptible to use by any officer as a substitute for any item or article in its original form. All readers of the News Letter are urged to obtain the original of those items of particular interest to the individual.

* * * * *

Notice

Due to the critical shortage of medical officers, the Chief, Bureau of Medicine and Surgery, has recommended, and the Chief of Naval Personnel has concurred, that Reserve medical officers now on active duty who desire to submit requests for extension of their active duty for a period of three months or more will be given favorable consideration.

* * * * *

Human Relations for Doctors

Much is being done in hospitals to make all staff members - doctors, nurses, attendants, everyone - aware of the importance of human relations. This is a never-ending job to which the management of a hospital must devote its most careful attention. At the same time, it requires the wholehearted support of the medical profession.

The reason is that so much in the hospital hinges on human relations. The patient is being treated in a place that is strange to him. He is perhaps frightened and he is ill. Merely an unkind word or action on the part of anyone connected with the hospital could produce an unfavorable reaction. Errors in human relations can harm a hospital's reputation and, to some extent, undermine confidence in the medical profession.

Since this is so, every member of the medical profession has a high stake in the hospital's good human relations. It is to his interest to promote them in any way he can, and there are certain things he can do in this direction. True, he does not determine the selection of people and their first training, both of which are important in obtaining proper attitudes with regard to conduct, courtesy, duties, and responsibilities. But these people's

continuing day-to-day guidance and approach to their duties depend to a large extent on the doctor.

In industry, we have found that the attitude of management - whether displayed by a foreman, department head, or top executive - pretty much sets the attitude of all the workers. As we are considerate and courteous, so are they. As we subject ourselves to discipline and accept our responsibilities, so do they. If, by our friendly recognition of their work, we make them feel that they are members of a team, they take greater pride in what they do - and do it better.

I don't mean by this that there is no discipline. Discipline is essential to any well-run business or institution. But it does not rule out a friendly atmosphere. Discipline to me means respect, acceptance of responsibility, proper conduct, courtesy, integrity, and pride. I find nothing repugnant in these attributes. Proper discipline develops a strong and efficient team capable of meeting any emergency. It does not apply only to certain members of the staff; it must permeate the entire organization. It is a necessary ingredient in a good human relations atmosphere.

In any organization each member is entitled to and should feel a sense of accomplishment. He should have a feeling of belonging, of being a member of the team - a feeling of contributing to the over-all purpose of the institution. We all have a craving for recognition, no matter on what level we may work. And the leaders of the organization, in particular, have to be especially careful to give that recognition to each individual and to his work. More friendliness, more cooperation is required of them than of anyone else. When they do create a friendly atmosphere, every single worker can take pride in all the accomplishments of his organization and give his best to it.

Institutional human relations, however, constitute only one side of the picture. The other side is the one that is exposed to people like me, the patients. Here I speak, not as a professional, but as a lay observer. And I am going to try with some trepidation to describe what we patients expect of our doctors.

The point that strikes us most forcibly about the medical profession is the dominating importance of personal responsibility. To laymen, the doctor's responsibility appears so awesome that we are almost inclined to consider members of the medical profession as above the normal human frailties. More than most of us, they seem to have a never-ending obligation to study and learn better ways of helping their fellow men.

Such responsibility can be met only by hard work personally undertaken. There is a danger that confronts anyone who has had long institutional training. When he completes that training, the safeguards surrounding him are removed. His routine is changed; his supervision disappears. More play is given to his individual initiative, but conversely, more initiative is required. Certain matters of more or less institutional

responsibility now become, directly and totally, his personal responsibility. His obligation entails extra effort, the giving of his talents over and beyond the day-to-day requirements. It is up to him to foster within himself the constant urge and drive to improve in his profession.

It's true of every person who has a job that he must work to improve his ability. But the medical profession has the obligation to a unique degree. Most of us are dealing in products and services. If we fail to improve, our lack of effort would usually mean only dollars lost. The medical man, however, is dealing in the health and lives of other human beings. Hence he must be always ready to work at the top of his ability. And his ability is determined by the personal contribution he makes by way of study and work.

The doctor's reward for his effort must be satisfying in a way that we laymen can only guess at. I am sure that the skilled surgeon who successfully performs a delicate operation deeply appreciates the extra hours and hard work that have made him expert in his profession. When the family physician struggles from his bed at 2:00 a. m., he is grumbling, grunting, and grouchy. But when he returns two hours later, surely there must be a glow of accomplishment to reward him for relieving some one of severe pain or perhaps saving a life. That is success. It does not come suddenly, nor is it plucked from a tree. It is the meeting of two lines: one, opportunity; the other, preparation for responsibility. It is such extra giving that we patients have come to expect of doctors.

At the same time, we are inconsistent. While we expect the physician to be almost more than human in the performance of his duties, we still want him to be completely human. We want his complete personal interest in our case. We even want a certain amount of sympathy, or at least, friendliness. We take it for granted that the doctor is trained to do his job correctly. But we want more; we want him to do the correct job with a human touch.

He may be amused by our attitude or annoyed by it. He may think it is silly. But nevertheless - there it is. We ask that it be treated sympathetically. When we seek medical care, we are often frightened. We want the very best of care for those we love. We make difficult, perhaps unfair demands because we are so aware of our own responsibilities. We are worried about ourselves and our families. Our emotions and our imaginations are involved as well as our flesh and blood and bones. The doctor cannot put a splint around our spirit, but he can by his friendliness give it a bracing tonic.

Man is not two people - one who lives, loves, and walks free under the sun; the other who is wheeled into the hospital without emotion or the need of a friendly hand or cheerful word. The cadaver in medical school was a lifeless, soul-less thing. The patient is a living human being with a soul, who looks hopefully to the doctor for more than his skill.

Right or wrong, that is our attitude and it is what doctors have to deal with. Have we always felt that it was considered sufficiently? I am

afraid that the answer has to be: not always. On occasion, I have heard complaints made by people who had been in a hospital for an operation. Their complaints went something like this: "There was too much regimentation. There was an unfriendly atmosphere." Although they were satisfied with the skill of the surgeon, they somehow felt that they were just another piece of bone and flesh rolled into the operating room. The staff was too coldly professional. One man even commented that a doctor's internship should include his own submission to a major operation so that he could understand the patient's feelings. Whatever you may think of these complaints, they do indicate that these people experienced a lack of human relations atmosphere in the hospital.

Now I know that doctors cannot control the conduct of all the people connected with the hospital. However, I also know that doctors can greatly influence the whole staff by the example they set. Understandably, the doctor cannot allow himself to trip over his emotions by becoming overly sympathetic or too personal. Is there not, however, a medium position between chill competence and over-emotional sympathy?

I bring up this point because for some reason some professional men almost cease to be human beings when they become a member of a profession. We have the problem in management circles of industry. Some have the feeling that professional men should be mentally and emotionally disciplined to the point that normal reactions and resentments are controlled; that, being professionals, they are not interested in recognition and need give none to others. Sometimes there creeps into professional groups a brusqueness of manner that chills the hearts of those with whom they deal. There develops an aloofness that is extremely difficult to penetrate or understand. Occasionally we meet the "two-hat man." Under one, he is the intelligent, cordial, friendly husband and father and respected member of the community. Under the other hat, he becomes the intelligent, successful, arctic cold professional.

Now, of course, it isn't true that the professional has no hunger for recognition, appreciation, and understanding. But what is more to the point, other people are repelled and hurt by this frigid attitude. We, the patients, appreciate the doctor's skill and depend on it. We hope for more than just his skill to help us.

I have always been impressed by a code for living attributed to Stephen Grellet. He wrote: "I expect to pass through this world but once. Any good, therefore, that I can do, or any kindness that I can show any fellow creature, let me do it now. Let me not defer or neglect it, for I shall not pass this way again."

The whole life of a doctor is a carrying out of the letter of that code. His fullest potential for success in healing will be attained in carrying out the spirit of it as well.

Beyond his sense of responsibility and his human warmth, there is another quality that we laymen expect of a doctor. We expect a sense of dedication. What a heart-warming tribute it is to the whole profession of medicine that we have come to expect it. In the course of his internship, the young medical man or woman may have run into situations which somewhat dull this sense of dedication. It may seem rather naive to mention it. And yet our doctors surely have it. They would not have undergone all the sacrifices in obtaining a medical education if they did not.

To the doctors, I say, let it come to the fore. Let your calm and determined choice of the healing profession be renewed in your hearts - and keep it there always. Greater or less skill in different doctors is understandable. Greater or less intelligence is characteristic of doctors as it is of all men. There can be no greater or lesser degree of dedication to the calling of medicine.

As you in medicine continue your profession, your sense of dedication will be sorely tried. You can count on that. You will meet whining patients and deadbeats and a lack of ordinary gratitude. You will be busy with a hundred tasks of office administration that have little to do with healing. You will be tempted, perhaps, to lose sight of the fact that yours is a dedicated life.

I don't think that I am presumptuous when I say that I speak here with the voice of hundreds and thousands of people. And what we are all saying is: "Don't lose that sense of dedication. Keep it strong within you. We need it. We need to think that your life is devoted to protecting us and those we love. We trust you with our babies, our husbands and wives, our own lives. We desperately need the confidence that comes from putting our health in your dedicated hands. We know that you will never fail us."

Almost every act you perform is backed by the prayers of many people, who call down God's blessing on your work. I should like to conclude by paraphrasing part of the oath and prayer of Maimonides, the great Jewish sage of Cordoba.

"May God stand by you in your important task and grant you success. For, without his loving counsel and support, man can avail but naught.

May you be inspired with true love for this, your great profession, and for all human beings. Grant that neither greed for gain nor thirst for fame may interfere with your activity. For these, we know, are enemies of truth and love of men. May you be granted energy of both body and soul so that, unhindered, you will always be ready to mitigate the woes, sustain and help the rich and the poor, the good and the bad, enemy and friend. May you ever behold in the afflicted and suffering only the human being."

(Carl E. Schneider. Reprinted with permission from TRUSTEE, the Journal for Hospital Governing Boards, American Hospital Association. 8: 1-5, August 1955)

* * * * *

The Management of Spontaneous Pneumothorax

Spontaneous pneumothorax is a relatively common disorder which has been recognized by physicians for a great many years. Formerly, it was thought to be due exclusively to tuberculosis. The studies of Kjaergaard in 1932, however, and of numerous subsequent writers who have reported large series of cases of spontaneous pneumothorax have done much to dispel the idea of tuberculosis as a common cause of this condition. Healthy subjects are usually affected, and expectant treatment may result in long periods of disability and hospitalization, with an occasional "captive lung," pleural effusion, or empyema. Simultaneous bilateral spontaneous pneumothorax is not exceptionally rare, and deaths have been reported in this situation as well as from severe untreated unilateral tension pneumothorax.

The treatment of spontaneous pneumothorax has been greatly altered in the past decade but there is still some confusion and disagreement concerning the proper management of patients with this condition. The rather prolonged period of inactivity which conservative treatment usually entails, and the occasional major complication associated with it, have prompted the consideration of other forms of therapy. The purpose of this report is to analyze a series of 80 patients with spontaneous pneumothorax who were managed by one of several methods, and to describe the therapeutic program which the authors have found to be the most satisfactory and successful.

The patients in the present series were admitted to the U. S. Naval Hospital, Portsmouth, Va., between January 1, 1952, and April 1, 1954. The material consisted of 80 cases collected from the hospital records, of which 25 unselected patients were treated on the thoracic surgery service. All of these 80 patients were otherwise healthy persons who developed spontaneous pneumothorax in the absence of neoplastic disease, active tuberculosis, or trauma.

Patients presenting severe symptoms of tension pneumothorax, bilateral pneumothorax, a large hydro- or hemopneumothorax, or pneumothorax superimposed on an already seriously impaired pulmonary function, are obviously emergency problems and require immediate active therapy. In other patients, the matter of loss of time to the patient as well as the possibility of recurrence should the lung re-expand without active therapy, or "captive lung," if it does not do so, would seem to justify an aggressive form of treatment. Therefore, it has become the practice of the authors to treat all cases of spontaneous pneumothorax as surgical emergencies.

The current practice is to take the patient with spontaneous pneumothorax to the operating room immediately after admission and to introduce a trochar and cannula into the pleural space under local infiltration anesthesia. The site of insertion varies in individual cases but as a rule the

second or third interspace in the anterior axillary line, or the fourth or fifth interspace in the midaxillary line, is used. The trochar is withdrawn and a thoracoscope is introduced through the cannula so that the surface of the collapsed lung can be examined. After careful inspection has been carried out and the underlying pathology determined, the thoracoscope is withdrawn and the visceral and parietal pleurae are thoroughly pou-draged with sterile talc which is insufflated by means of a powder blower. The long stem of the insufflator is inserted through the cannula and pointed in various directions as the powder is blown into the pleural space so as to thoroughly cover the pleural surfaces. A No. 16 French red rubber catheter is then placed through the cannula into the pleural space, the cannula is withdrawn, and active underwater seal suction at a negative pressure of 15 to 20 cm. of water is begun.

These patients are returned from the operating room to their rooms by way of the radiology department where a postero-anterior chest film is obtained. This almost always shows complete re-expansion of the lung.

Active suction is maintained for 24 hours and the patient is then placed on simple underwater seal drainage for an additional 24 hours. If the lung remains fully expanded and there is no fluid collection, the catheter is removed. Penicillin is given intramuscularly as long as the intercostal catheter is in place. Twenty-five of the 80 patients in the present series were treated in this active manner.

Fifty-five of the 80 patients were treated conservatively by one of these methods. The most common treatment consisted of simple bed rest, and this measure was used in the large majority of these 55 patients. Much less commonly, repeated needle aspiration was used in addition to bed rest. In 2 patients, a catheter was inserted and simple underwater seal without active suction was utilized.

The rapid recovery achieved by the program of active treatment of spontaneous pneumothorax is of great importance to the patient, for it represents an economic saving which could not be achieved by other forms of therapy. The point is well illustrated by the experience with the 80 cases reported. The 55 patients who were treated by conservative methods required an average period of hospitalization of 43 days per patient, or a total of 2365 man-days on hospitalization for the patients in this group. On the other hand, the 25 patients managed by immediate thoracoscopy examination, talc poudrage, and active intercostal suction, required an average of but 3 days' hospitalization per patient, or a total of 75 hospital days for this series of actively treated patients. If it may be assumed that the 55 unselected conservatively treated patients would have responded equally as promptly to the energetic method of treatment described as did the 25 patients who were so treated, a saving of 2200 man-days of hospitalization could have been effected.

Spontaneous pneumothorax should not be considered a completely benign condition because it has resulted in death, and complications associated with it are not rare. Thoracoscopy as an aid in diagnosis and in selecting the treatment of choice is emphasized. The rupture of a sub-pleural bleb is the most common cause of "idiopathic" spontaneous pneumothorax.

A method of treatment for spontaneous pneumothorax which achieves pleural symphysis by talc poudrage and active underwater seal catheter suction is described. This method appreciably decreases the time required for re-expansion. The decreased period of disability among patients thus managed results in a great saving in money and manpower in comparison with other forms of therapy. Recurrent pneumothorax following talc poudrage has not occurred in the present experience, and it has been concluded that it is distinctly rare. Open thoracotomy is reserved for those patients who demonstrate large emphysematous blebs compressing healthy lung tissue. This is determined by roentgenographic and thoracoscopic examination of the chest. (Marrangoni, A.G., Storey, C.F., Geib, P. O., The Management of Spontaneous Pneumothorax: Am. Rev. Tuberc., 72: 257-265, September 1955)

* * * * *

Reevaluation of Sulfonamide Therapy

Decreased interest in the sulfonamides is not difficult to understand following the introduction of penicillin, an agent which produced dramatic therapeutic results and which could be administered in unlimited amounts without evidence of toxicity.

In spite of the tremendous therapeutic success of the antibiotics, problems soon began to appear. At first, an occasional patient was found to manifest evidence of hypersensitivity to penicillin in the form of a delayed sickness-like reaction or the earlier urticarial rash. Streptomycin therapy was associated with acoustic nerve damage and dermatitis, and its usefulness was often limited by the rapid development of strains resistant to its action. The tetracycline group of antibiotics, as well as chloramphenicol, often produce nausea, vomiting, diarrhea, and monilial infections of the intestinal and genital tracts. None of the antibiotics, subsequently introduced, has been as free of true toxic reactions as penicillin; the antibiotics of the polypeptide group have a narrower margin of safety than sulfadiazine.

Today, the incidence of allergic reactions to penicillin approaches 10%, and over 130 cases of severe anaphylactic reactions have been reported, of which 40 were fatal. Blood dyscrasias have been associated with the administration of streptomycin and chloramphenicol, and probably

with other antibiotics, with 44 deaths due to aplastic anemia. Serious infections due to staphylococci and the gram-negative bacilli, resistant to all antibiotics, are being observed with increasing frequency and superimposed infections often develop during antibiotic therapy.

There can be no doubt that in almost every infectious disease antibiotics are more active therapeutically than the sulfonamides. However, because it now appears likely that progress will be made less rapidly in the field of antibiotics, it seems appropriate that the laboratory and clinical investigations of the sulfonamides during the past 12 years be reviewed and an attempt made to determine the place of the sulfonamides in the treatment of infectious diseases today.

During the earlier years of the antibiotic era, the use of the sulfonamides dropped off strikingly but, since 1949, the increasing experience with the newer preparations provides information for an evaluation of their indications. It is now generally agreed that the sulfonamides are the preferred antibacterial agents in the management of meningococcal infections. Strains of meningococci, clinically resistant to sulfonamides, have not been encountered. Penicillin may be equally effective if administered in large doses, and it may be given in combination with a sulfonamide in serious infections due to this organism. The sulfonamides are considered equally as effective as the tetracyclines in the treatment of bacillary dysentery and chancroid. As a result of extensive experience in Missouri, Siniscal concluded that trachoma can be best treated by sulfonamides. The sulfonamides are probably as effective as any other antibacterial agent in the management of other less common diseases, including anthrax, cholera, glanders, plague, inclusion conjunctivitis, and South American blastomycosis.

The sulfonamides are generally effective in a large group of infections involving the urinary and respiratory tracts, although in some instances the causative agent may be resistant to their activity. These include the common urinary tract infections due to coliform bacteria and respiratory tract infections due to pneumococci, streptococci, Hemophilus and Klebsiella. While the sulfonamides will effectively control the clinical manifestations of the hemolytic streptococcal infections, as well as their suppurative complications, recent evidence indicates that they are not so valuable as penicillin in preventing the late complications of rheumatic fever and glomerulonephritis. However, once the streptococci have been eliminated from the throat, the prophylactic administration of the sulfonamides will usually prevent subsequent infections.

Because of the diffusibility and the additive antibacterial effect, the sulfonamides often are of definitive value when used in combination with the antibiotics. The sulfonamides are as effective as any other single agent in the treatment of infections due to the anaerobic and aerobic

actinomyces, and, in combination with penicillin or iodides, they are probably more effective. In the authors' experience, a practical plan has been to administer both penicillin and sulfonamides in infections due to these organisms until the cultures become negative, then to maintain sulfonamide therapy on an outpatient basis for a period of one month after all sinuses have ceased draining.

The combination of the sulfonamides with penicillin in the treatment of pneumococcal meningitis is now generally accepted as being superior to the use of either agent alone. Some observers feel that the sulfonamides are definitely of value in the treatment of Hemophilus influenzae meningitis in combination with streptomycin or chloramphenicol.

Occasionally, the sulfonamides may be effective in infections resistant to the antibiotics, such as infections due to Proteus, Pseudomonas, Salmonella, Aerobacter and other gram-negative bacilli.

New antibiotics, it appears, will not be developed as rapidly as microorganisms adapt to growth in their presence. A possible solution to the problem of the rapidly increasing incidence of antibiotic-resistant infections is to reserve the most potent agents for serious illnesses and infections generally resistant to the sulfonamides. An exaggerated picture of the importance of the antibiotics may have been created by the fact that many of the authorities writing in the field of infectious diseases have had experience primarily with problem cases and see very few of the routine infections handled in a doctor's office or in a hospital outpatient clinic. Most of the infections seen today involve either the respiratory, gastrointestinal, or urinary systems, and the majority of these infections are sensitive to the sulfonamides. From 70 to 90% of uncomplicated urinary tract infections will respond to sulfonamide therapy. The use of less potent drugs in mild infections of this type may delay the development of antibiotic-resistant strains and reserve the most effective agents for the most serious illnesses. (Yow, E. M., A Reevaluation of Sulfonamide Therapy: Ann. Int. Med., 43: 323-331, August 1955)

* * * * *

Iron-Storage Diseases

The deposition of an abundance of iron in tissues is a morphologic characteristic of both hemochromatosis and hemosiderosis. At times, the quantity and distribution of iron in these two conditions are similar, whereupon pathologic evidence of cirrhosis of the liver becomes the main diagnostic criterion of hemochromatosis. Recently, it has been postulated that prolonged administration of iron parenterally, orally, or by transfusion of blood may result in "exogenous" hemochromatosis. In an earlier report, the authors presented evidence that hemochromatosis and hemosiderosis

were distinct pathologic entities and that hemosiderosis was not converted into hemochromatosis. Some of the confusion that persists from the idea that exogenously administered iron evokes hemochromatosis is the result of improper pathologic definition of these iron-storage diseases and misinterpretation of certain unusual cases of hemochromatosis associated with anemia of various types when multiple transfusions of blood are administered.

The purpose of this study is to evaluate the distinctions between hemochromatosis and transfusional siderosis and to classify the various conditions associated with excessive storage of iron in the light of current knowledge.

Results of this study suggest that a new classification of the disorders, associated with abnormal storage of iron, would help one to understand them better. Therefore, until further information permits a more accurate classification based on etiologic factors, the following is suggested:

Iron-Storage Diseases

I Hemochromatosis

- A Primary (classic)
- B Heredofamilial
- C Associated with chronic anemias, usually refractory anemia (so-called secondary hemochromatosis)

II Hemosiderosis

- A Malnutritional
- B Exogenous (excessive blood transfusions, intravenous administration of iron, or prolonged oral use of iron)
- C Associated with various refractory, megaloblastic or hemolytic anemias

A clinical, pathologic, and biochemical study at the Mayo Clinic of 26 cases of classic hemochromatosis, 3 cases of hemochromatosis associated with refractory anemia, and 20 cases of transfusional hemosiderosis indicates the need for a new classification of these and related disturbances of the storage of iron. All of these conditions are distinct clinical and pathologic entities and no evidence exists that overload of iron alone can result in transition from hemosiderosis to hemochromatosis.

An enlarged liver, diabetes mellitus, cutaneous melanosis, and sexual hypoplasia (in male patients) characterize hemochromatosis. Pathologically, a finely granular cirrhosis, pancreatic fibrosis, testicular atrophy, and tremendous deposits of hemosiderin in the liver, heart, stomach, and endocrine glands define hemochromatosis. Several of these clinical and pathologic features may be found in hemosiderosis, with the

exception of pigmentary cirrhosis of the liver which is the salient diagnostic feature of hemochromatosis. Pathologically, this variety of cirrhosis appears to be in an earlier stage of development than most cases of Laennec's cirrhosis observed at necropsy.

There are three types of hemochromatosis, namely (1) the classic type which is commonest; (2) the heredofamilial type; and (3) the type associated with anemia, usually refractory in nature. The treatment of hemochromatosis, associated with refractory anemia, has been the oral administration of iron or use of multiple transfusions of blood. This therapy may aggravate hemochromatosis but it is doubtful that it is a cause.

A simple classification of iron-storage diseases, based on this study, and a review of the cases reported in the literature is proposed. (Kleckner, M.S. Jr., Baggenstoss, A.H., Weir, J.F., Iron-Storage Diseases: Am. J. Clin. Pathology, 25: 915-929, August 1955)

* * * * *

Evaluation of ACTH and Cortisone in the Treatment of Burns

In spite of the present knowledge of the physicochemical changes that occur in burned patients and the institution of rational measures for their correction, morbidity and mortality remain high. Many patients who may be brought through the early period, survive this phase only to develop severe associated complications that may prove fatal.

During the initial period, attention has been directed toward preventing the immediate processes of stress. Previous investigation suggested that the use of ACTH and cortisone offered promise as a means of correcting early changes and, thereby, lessening late pathologic damages.

When burns are of minor depth and extent, the patient's response to the stress of the trauma is of less consequence and the prognosis is favorable. The somewhat more extensively burned individual may reasonably be expected to benefit from the use of ACTH and cortisone. However, if more than 75% of the body surface is involved with second and third degree burns, the damage is usually irreversible even though the patient survives the initial phase. The so-called borderline case, in which the outcome is questionable soon after injury, requires special consideration. Laboratory evidences of shock, such as hemoconcentration, urinary changes, and electrolyte disturbances, may be absent or not marked. Failure to appreciate the fact that clinical or laboratory evidence of the trauma is often delayed may lead to disastrous consequences during the recovery period when treatment may prove ineffective. This is particularly true of cases where 15 to 40% of the body surface is involved, regardless of

depth. This is the group that was thought might be benefited by the administration of ACTH and cortisone.

Initially manifested changes and the response to them may be different in any two patients, however similar their trauma. The shift of electrolytes, the hemoconcentration, and the urinary output are not always in proportion to the magnitude of the burn. Although the degree of damage to the vital organs is usually determined by the extent of the burn, minor burns may cause as extensive changes as those that involve large areas.

The investigation was instituted to evaluate the effect of ACTH and cortisone on the course of severe burns. Twenty-two badly burned patients, admitted to Grady Memorial Hospital, were studied. They were classified as to the degree of burn and the percentage of body surface involved. They were then divided into "severe" and "critical" groups according to the percentage and degree of body surface involved, age, and associated disease. Ten patients, classified as "severe," had burns covering less than 50% of the body surface and no disabling diseases. Twelve cases were classified as "critical" on the following bases: (1) third degree burns involving 50% or more of the body surface; (2) third degree burns covering 30% or more of the body surface of patients past 70 years of age; and (3) third degree burns involving 35% of the body surface if there were severe associated diseases or complications.

The closed method of local treatment was used on all patients.

According to the defined criteria, the patients were divided into two groups, "severe" and "critical." In both groups the mortality was high, and it was felt that ACTH and cortisone had little effect on the mortality rate.

Improvement was noted in other clinical aspects, however. The patients were more comfortable during the initial period of treatment. Electrolytes, colloids, and fluids were easily controlled. The initial hemoconcentration was corrected without difficulty. None of the patients showed evidence of anemia during the first week, although later, it became a problem.

Only those patients who developed severe lower nephron nephrosis experienced sodium retention. A delayed fall in the total eosinophil count was interpreted as unfavorable because all patients, in whom this occurred, failed to survive.

No serious objections were found to the use of ACTH and cortisone in burned patients. Although the mortality rate among these patients was not decreased, it is believed that borderline patients may be carried through the initial period of stress with the addition of ACTH and cortisone to the routine treatment. On the basis of these observations, the routine use of ACTH and cortisone in the treatment of burns is not indicated. (Martin, J. D., Jr., McGarity, W. C., Smith, F. C., Evaluation of ACTH and Cortisone in the Treatment of Burns: Surgery, 38: 543-551, September 1955)

Routine Postoperative Nasogastric Suction

This presentation proposes to evaluate the routine use of nasogastric suction after elective major abdominal surgery. The authors believe this practice should be closely examined for the following reasons: (1) Suction tubes can cause a wide variety of complications, some serious. (2) Surgeons do not agree on the necessity nor duration of suction postoperatively. (3) Intestinal distention appears to be minimal in the early postoperative period in the absence of complications. (4) No suction was used on 130 out of 143 consecutive cases of major abdominal surgery. There was no mortality and no adverse effects were seen.

Probably, every surgeon has seen complications associated with the use of suction tubes. While all are annoying, some are quite serious and a potential hazard is always present. The authors have encountered numerous instances of sore noses and sore throats, one case of massive distention from pressure being applied instead of suction, two instances of knotting of the tube making removal difficult, and one case of permanent partial vocal cord paralysis.

The literature contains many reports of injury following the use of tubes. These complications required 49 immediate operations including 24 tracheotomies. In addition, the instances of laryngeal and esophageal injury almost always presented long term problems with multiple operations, dilatations, and permanent damage. Eight deaths were directly related to complications following the use of the tube.

In addition, suction always removes valuable fluid and electrolytes. The proportions of this loss are often difficult to determine but the report of Taylor shows the magnitude that can be expected in the average hospital patient in whom suction is being maintained. In the sick or postoperative patient, unnecessary and rapid depletion can add innumerable problems to management - even death.

There is no agreement among surgeons as to the necessity nor duration of suction postoperatively. A brief review of the literature shows wide differences of opinion; a survey of 45 practicing Seattle surgeons reveals a similar divergence of attitude concerning suction in the postoperative period. In both groups, some did not use suction as a matter of routine while others thought it should be employed for a minimum of 3 to 4 days in every instance.

The reasons given by these local surgeons for maintaining suction in the postoperative period were: (1) to treat acute gastric dilatation or gastrointestinal distention and avoid tension on suture lines; (2) to treat prolonged nausea and vomiting; (3) to evaluate postoperative bleeding at an anastomosis; (4) to determine if it is safe to commence oral feedings by clamping off the tube, giving liquids by mouth, and, after an interval, re-establishing suction and noting how well the stomach is emptying itself, and (5) for prophylaxis - to prevent gastrointestinal distention.

Without question, suction should be instituted whenever distention is present preoperatively, during surgery, or postoperatively. Also, if the surgical lesion is an irritative one, usually associated with prolonged ileus, the use of the tube is logical. Intubation for diagnosis is justified. The pure prophylactic use of suction to prevent complications that are not likely to occur seems unwarranted, can be dangerous, and is always uncomfortable for the patient.

No suction was used in 130 out of 143 consecutive cases of major abdominal surgery. These patients were instructed not to swallow anything and were given nothing by mouth until flatus was passed by rectum. There was no mortality. No adverse effects were seen. Suction was used in 13 instances in which specific indications were found at surgery.

Data are given on 50 consecutive abdominal surgical cases in which continuous suction was maintained, showing that both motility and secretion in the stomach cease following surgery and that secretion does not return until motility returns to propel it along. In eight patients, these factors were correlated with the eosinophile count.

For the reasons given, the authors believe that the practice of routine postoperative nasogastric suction after gastrointestinal surgery should be re-evaluated, and that intubation should be used only when specific indications exist. (Eade, G.G., Metheny, D., Lundmark, V.O., An Evaluation of the Practice of Routine Postoperative Nasogastric Suction: Surg. Gynec. & Obst., 101: 275-279, September 1955)

* * * * *

Hyponatremia

During the past ten years, the danger of giving patients (particularly those with impaired cardiac function) too much sodium has frequently been stressed. However, the opposite danger of hyponatremia, or a low sodium level, has received very little emphasis and for this reason has often not been recognized. In this purely clinical article, the author emphasized the facts that low sodium levels are not uncommon in the urologic patient and that the recognition of this syndrome is of the utmost importance. He emphasized, also, that it is possible to make a presumptive diagnosis of sodium deficiency without extensive laboratory facilities. There are several reasons why sodium deficiency is particularly likely to develop in the urologic patient.

In the first place, many urologic patients have cardiac complications and, therefore, may have been on a low-salt diet before entering the hospital so that, when they are first seen by the urologist, they are already in a state of salt depletion. This is particularly likely if, in addition to a low-salt diet, they have been receiving a mercurial diuretic.

Secondly, the routine treatment of the urologic patients is designed to promote a diuresis by forcing fluids and relieving back pressure on the kidneys due to mechanical obstruction. However, many of these patients have pre-existing renal disease with tubular damage, and may not be able to conserve sodium efficiently. If, in this type of patient, a diuresis is established, excessive amounts of sodium will be lost. This salt loss will be greatly increased if, as the internist often insists, patients are given intravenous infusions of fluid containing no salt.

Also, the salt intake of many urologic patients is low because, for various reasons, they often take very little solid food by mouth.

Finally, in rare cases there may occasionally also be an element of adrenal failure, with resulting loss of salt that would normally be retained in times of stress. As soon as there is a decrease in the sodium concentration of the extracellular fluid, there will at once be a compensatory loss of water. This reduces the total volume of the extracellular fluid and plasma, with a resulting decrease in renal blood flow and consequent renal failure. The signs of dehydration will develop, and because this dehydration is due primarily to salt loss, it is obvious that the larger the amount of hypotonic fluid given, the worse the dehydration will become. It is also obvious that, because of this compensatory mechanism, the patient may actually be in a state of salt depletion, even with low-normal blood sodium levels. The sodium level will not drop below normal until the salt and water loss has become severe. Associated with the loss of sodium, there is a loss of chloride. However, from the purely practical point of view, it is usually not necessary to be concerned with the chloride loss or with disturbances in the other electrolyte levels. It would be ideal if a complete study of the fluid and electrolyte balance of every urologic patient could be made, but such studies are, unfortunately, expensive, tedious, and often beyond the available facilities. For this reason, it is important to be on the watch for possible sodium depletion and to be able to make the diagnosis clinically, which the author believes can usually be done.

The first occurrence that should alert the urologist to the possibility of salt depletion is a history of a low salt intake. Azotemia, without evidence of severe renal damage or a large urinary output associated with a rising nonprotein nitrogen, should at once suggest the possibility of hyponatremia. A rising nonprotein nitrogen, in spite of an adequate urinary output, was present at first in all but one of the six cases reported. Another finding that has usually been present and is likewise due to a decrease in the extracellular fluid has been the clinical appearance of dehydration in spite of adequate or more than adequate fluid intake. If the patient's tongue is dry and coated in spite of an intake of 3000 cc. of fluid, the possibility of hyponatremia should at once be considered. Weakness and general debility are present and are always greatly in excess of

what seems warranted. The most striking symptom, however, is the loss of appetite and inability to take anything by mouth. Although the diagnosis can, of course, be proved only by the finding of a low sodium level in the blood, the author believes that the clinical findings are sufficiently definite to warrant the giving of salt, even in the absence of laboratory confirmation. If the hyponatremia is not too severe, the intravenous administration of 1000 cc. of physiologic saline solution will result in a striking and rapid improvement which confirms the diagnosis.

The treatment of severe sodium depletion is the intravenous administration of hypertonic saline solution and sodium lactate. However, the author's experience has been that adequate clinical response can usually be obtained by intravenous administration of physiologic saline solution accompanied by moderate amounts of sodium chloride by mouth. The nonprotein nitrogen drops rapidly with only small amounts of sodium chloride. As soon as the extracellular fluid volume returns to normal, a marked diuresis occurs even if the sodium level is still slightly below normal. (Peirson, E. L., Hyponatremia in the Urologic Patient: New England J. Med., 253: 360-361, September 1, 1955)

* * * * *

Gynecography Simplified

Gynecography includes the visualization of the uterus, tubes, and ovaries by means of pneumoperitoneum plus hysterosalpingography. This technique, which permits an accurate diagnosis of obscure pelvic pathology, has been utilized successfully in many thousands of patients during the past twenty-five years by Dr. Stein and his group at Michael Reese Hospital, Chicago.

The authors utilized the ordinary x-ray table, tilted down 15 degrees and placed a 4-inch-thick pad on the table in such manner that the patient can be placed in position for proper x-ray exposure. Numerous films have been taken with excellent results using standard x-ray equipment. The purpose of this article is to show that good gynecography can be done by utilizing any standard x-ray equipment. The authors hope that, with the aid of the simplified technique, the practitioner will avail himself more extensively of this diagnostic aid.

Gynecography is valuable (1) when the usual method of bimanual examination is inconclusive; (2) when the patient has been given conflicting opinions by various physicians; (3) for complete pelvic survey in patients complaining of infertility; (4) for the differential diagnosis in cases of suspected unruptured ectopic pregnancy; (5) in the obese woman; (6) where only rectal examination is possible; (7) for diagnosis of ovarian pathology such as bilateral polycystic ovaries associated with amenorrhea and

sterility (Stein-Leventhal syndrome); (8) in developmental anomalies of the uterus and appendages such as septate, bicornuate, or double uterus; (9) for the establishment of the existence of the internal female genitals in pseudohermaphroditism. In addition, the films become a permanent record available not only for comparison but for multiple opinion as well.

The value of gynecography as a diagnostic aid has been well documented in the numerous papers presented by Stein and his associates. Previously, this examination has been limited to large institutions because of the need for special equipment. The authors have demonstrated that excellent films can be taken with the standard x-ray equipment available to every physician. Along with others, the authors have advocated the injection of gas by the transabdominal route rather than the transtubal route because the former is a more rapid method, producing less discomfort to the patient. Unless sufficient gas (approximately 1000 cc.) is injected into the free peritoneal cavity, no visualization of the intrapelvic viscera will be obtained. Little experience is required to obtain good diagnostic films. The interpretation of these films is not difficult, but it does require a knowledge of the normal female internal genitals so that variations in size, shape, and position of adnexal masses can be correctly evaluated. Because these roentgenograms are not distant films, some distortion in size may occur, especially if the patient is obese. It is always possible, however, to compare the size of each ovary with the size of the uterus. For example, each ovary is normally about one-fourth the size of the uterus; in the Stein-Leventhal syndrome of bilateral polycystic ovaries, each ovary is from one-half to three-fourths the size of the uterus.

Hysterosalpingography is of distinct value in infertility, habitual abortion, and uterine bleeding. When hysterosalpingography is added to pneumoperitoneum, additional information is available for complete gynecological diagnosis. Moreover, when the use of iodized oil is contraindicated, it is still safe to employ transabdominal pneumoperitoneum for visualization of the uterus and ovaries, and many times distinct tubal outlines are clearly demonstrated. The authors especially urge all those who are interested in the study of infertility to add gynecography to their diagnostic armamentarium. (Strauss, H. A., Cohen, M. R., Gynecography Simplified: Am. J. Obst. & Gynec., 70: 572-580, September 1955)

* * * * *

Please forward requests for change of address for the News Letter to: Commanding Officer, U. S. Naval Medical School, National Naval Medical Center, Bethesda 14, Md., giving full name, rank, corps, and old and new addresses.

* * * * *

Chlorpromazine and Cerebral Palsy

The current efforts at developing over-all treatment programs for cerebral palsied children utilize all available techniques and procedures in medical and allied fields. Not only do present methods need evaluation to determine their effectiveness, but new advances in treatment need evaluation to determine their worth for inclusion in the therapeutic programs.

The use of drug therapy as an adjunct in cerebral palsy treatment has been accepted for some time. Chlorpromazine has been described as a central nervous system depressant. Preliminary tests have indicated that chlorpromazine acts at the cortical and subcortical levels in the cerebrum, at the diencephalon in the medulla, and, to a lesser extent, on ganglia and the peripheral autonomic system. Its relaxant effect is thought to be the result of interruption of neural impulses passing between the diencephalon and the cerebral cortex. Tests in animals and human beings indicate that chlorpromazine is relatively nontoxic and has a fairly wide range of application to control of nausea and vomiting, intractable pain, and hiccoughs, as well as anxiety states and a variety of mental and emotional disturbances.

The requirements for a successful drug in cerebral palsy should be: (1) beneficial effect on the child's over-all behavior; (2) relaxant effect on musculature; (3) palatability and ease of administration; and (4) low toxicity. This study evaluates chlorpromazine with these criteria in mind.

The subjects were eighteen cerebral palsied children, ages 1 to 12 years (modal age 3 years). All had been well followed medically and had been given individual psychological examinations. There was a wide range of physical handicap, from mild (six) through moderate (two) to severe (ten). A mildly handicapped child is one whose gait, speech, and physical activity appear normal except that fine precision of movement may be impaired. A moderately handicapped child is able to walk unassisted, although his gait may differ from the normal. Generally, he has only fair use of one upper extremity. His speech is understandable but may be indistinct. A severely handicapped child is usually unable to care for all his own bodily needs because he is unable to walk unassisted, talk clearly, and has little use of his hands. Intelligence ranged widely, from average (three) through borderline (four) to mentally defective (eleven).

Chlorpromazine (Thorazine) was administered as an orange-flavored syrup. One 5 cc. teaspoonful contained 10 mg. of chlorpromazine hydrochloride. In the light of the requirements presented for a successful drug in cerebral palsy, chlorpromazine was found to have (1) beneficial effect on the child's over-all behavior; (2) palatability and ease of administration; and (3) low toxicity.

When the child was examined by the usual clinical methods, there was no appreciable specific beneficial or deterrant effect on muscle status. However, the child's good humor made it easier for therapists to carry out

therapy with a more relaxed child. The results of this study emphasize that looking for specific improvement in muscle status (i. e., diminution of spasticity) is not as important as the over-all behavioral improvement a child may make.

To further supplement the month's experimental study, seventeen of the eighteen children continued to receive medication from 1 to 10 months (mean: 4.3 months) after completion of the study. Eleven of these children continued to improve in physical and emotional adjustment.

Analogous to the pain-relieving effects of chlorpromazine in cerebral palsied children, the physical handicap is still there but the child is not as much aware of it as previously.

This study has emphasized that, generally, too little attention is paid to the psychological factors in cerebral palsy, particularly anxiety and self-awareness associated with the child's physical disequilibrium in space. It is felt that this drug may open up new research possibilities in the area of psychobiological research in cerebral palsy. In this way, a greater understanding of the integration of the psychological and physiological aspects of behavior may eventually be used to enhance the therapeutic armamentarium. (Denhoff, E., Holden, R. H., The Effectiveness of Chlorpromazine (Thorazine) with Cerebral Palsied Children: J. Pediat., 47: 328-332, September 1955)

* * * * *

"Honors"

Captain J. M. Amberson, MC USN (then a Commander, MC USN) was recently commended by the Secretary of the Navy.

The citation reads:

"For outstanding performance of duty while serving in Task Force Ninety, from 13 August to 23 September 1954, during the operation, 'Passage to Freedom,' in which approximately 100,000 Vietnamese refugees were transported by sea to new homes in southern Indo-China. Displaying exceptional leadership and organizational ability, Commander Amberson, through his vast knowledge of world-wide factors in the fields of preventive medicine and epidemiology, rendered invaluable service to the Force Medical Officer in planning the establishment and medical logistic support of the Preventive Medicine and Sanitation Unit at Haiphong, Indo-China. As first commander of this unit, Commander Amberson worked long, arduous hours in the face of adverse circumstances to

organize and supervise the extensive work of his unit, skillfully handling many difficult problems of liaison with the French and Vietnamese military and civil authorities. He established medical safeguards in the refugee camps and patiently and understandingly instructed the refugees in the rudiments of hygiene and sanitation. Under his direction, much valuable information was collected concerning the myriad diseases of Indo-China. In addition, he cared for the health of United States Navy, Army, Air Force, and civilian personnel in the Haiphong area. By his outstanding professional skill and tireless devotion to duty, he contributed materially to the success of the 'Passage to Freedom' operation and upheld the highest traditions of the United States Naval Service. "

A Bronze Star in lieu of a Second Commendation Ribbon is authorized.

* * * * *

Letter of Commendation

During a meeting of the Ensign Dental Reserve Company at Georgetown University Dental School on September 12, 1955, Commander Francis J. Fabrizio, DC USNR, was presented a letter of commendation from the Surgeon General of the Navy.

The presentation was made by Captain C. E. Allen, Staff Dental Officer, PRNC. Quoting from the Surgeon General's letter:

"I understand that this was the first Ensign Dental Reserve Company which was formed in dental schools, and that you were instrumental in its organization. You were also the company's first Commanding Officer. During your tenure of office from 1 March 1951 to 1 July 1954, you were not only successful in enrolling 129 students in this company, but influenced and motivated many of its members to seek active duty in the Navy after graduation.

It is a pleasure for me, as Chief of the Bureau of Medicine and Surgery, to send this letter of commendation to you in recognition of your outstanding loyalty and leadership in the Naval Reserve. "

(TIO, BuMed)

* * * * *

Nursing Education Program for
Hospital Corps Waves

Under a joint plan of the Bureau of Medicine and Surgery and the Bureau of Naval Personnel to provide an opportunity for enlisted women to qualify for officer status in the Nurse Corps of the Navy and to provide an additional source for augmentation of the Nurse Corps, a program in nursing education has been made available to Hospital Corps Waves.

Ten Hospital Corps Waves were approved for enrollment in September, 1955, in the basic nursing education program at civilian universities.

Eligibility for selection for this program included the requirement that applicants be high school graduates with a standing in the upper half of their graduating class, and that they must have been a member of the Hospital Corps for at least one year, six months of which must have been on ward duty engaged in the care of patients under the immediate supervision of officers of the Nurse Corps.

The Waves selected for this training have been discharged from their present enlistments, and they have been re-enlisted for a period of six years as Hospitalman, in pay grade E-3, and retained on active duty in the Naval Reserve. Upon successful completion of the four-year course and attainment of a baccalaureate degree, they will be commissioned Ensigns in the Nurse Corps of the United States Navy, if in all respects qualified, for a period of active duty of at least four years.

Budgetary authority for this program was granted for fiscal year 1956, and it is anticipated that the program will be continued and expanded in ensuing fiscal years. (TIO, BuMed)

* * * * *

From the Note Book

1 Rear Admiral B. W. Hogan, MC USN, the Surgeon General, attended the 57th Annual Meeting of the American Hospital Association held in Atlantic City, September 19 - 22, 1955. Admiral Hogan is the only medical military Delegate-at-Large of the House of Delegates of the American Hospital Association (TIO, BuMed)

2 Captain J. A. English, DC USN, on duty at the Naval Medical Research Institute, National Naval Medical Center, Bethesda, Md., was recently elected to membership in the society of Sigma Xi, John Hopkins University Chapter. XI is an honorary organization dedicated to the promotion of science.

3 In accordance with BuMed Instruction 6820.1B, all dental activities, not under the management control or financial responsibility of the Bureau

of Medicine and Surgery, will be furnished without submission the following dental periodicals for the calendar year 1956: Journal of Periodontology; Journal of Oral Surgery; Journal of Prosthetic Dentistry; Oral Surgery, Oral Medicine, and Oral Pathology; Journal of Dental Research (furnished to 26 selected dental activities); and Dental Abstracts. (TIO, BuMed)

4 "Medical Horizons," a new half-hour television series, presented by CIBA Pharmaceutical Products, Inc., in cooperation with the American Medical Association, was premiered on September 12, over ABC-TV. The new documentary series will present specific accomplishments in the field of medicine brought about by the teamwork of modern medical research, education, and practice. The new program will be presented each Monday from 9:30 to 10:00 p. m., New York time, on a network of 45 ABC-TV affiliated stations for a minimum of 26 weeks. Stations in the Pacific and Mountain Time zones will receive the program on a two-week delayed basis via kinescope film. (TIO, BuMed)

5 A Bureau of Medicine and Surgery brochure entitled "Charting Your Course" has been distributed to each senior medical student in the United States and Puerto Rico. The brochure provides an insight into Navy medicine and a panorama of the Medical Corps in action. Distribution has also been made to Offices of Naval Officer Procurement, District Medical Officers, and commanding officers of Naval Hospitals. Extra copies may be obtained upon request to Bureau of Medicine and Surgery. (TIO, BuMed)

6 Research grants and research fellowships in the field of nursing will be available from the Public Health Service, Department of Health, Education and Welfare, in the fiscal year beginning July 1, 1955. The expanded program of grants and fellowships is designed to support investigations into ways and means of improving quality of nursing care, training nurses in research methods applicable to nursing problems, and making better use of the limited supply of professional nurses. The grants in most cases will be made directly to universities, hospitals, health agencies, or professional groups, under whose auspices the research projects will be carried out. (P. H. S., Dept. H. E. W.)

7 The Food and Drug Administration has announced that it will employ 48 temporary investigators to carry out a special assignment to enforce the Federal prescription drug law against possible "black market" distribution of the Salk poliomyelitis vaccine. (F. D. A., Dept. H. E. W.)

8 Seven outstanding young scientists chosen from leading universities begin postdoctoral basic research this year at the National Bureau of Standards. The postdoctoral students will initiate a plan for advanced basic

study for which cooperative sponsorship was announced last year by the National Academy of Sciences-National Research Council and NBS. The seven fields chosen for study from among thirteen areas are quantum chemistry, crystal structure, nuclear physics, physical chemistry, molecular structure and spectroscopy, mathematics, and statistical mechanics. (National Bureau of Standards)

9 A new radiochemistry laboratory for use in preparing and distributing standard samples of radioactive materials has been established at the National Bureau of Standards. The laboratory will be operated by the Bureau's Radioactivity Section. Facilities include equipment of remote control operations under chemical hoods, especially built lead and concrete protective shieldings, and a system for proper disposition of radioactivity from the exhausts of the chemical hoods. The resources of this laboratory are expected to expedite greatly the Bureau's program of radioactive sample distribution. (NBS)

10 A new experimental instrument known as a spectrophotofluorometer will improve present methods for revealing the presence of organic substances in solutions. In common with other related instruments, the new spectrophotofluorometer operates on the principle of fluorescence - the ability of certain substances to emit, when irradiated, light which is different in wave length from the light which they absorb. The advantage in the new instrument over pre-existing related devices lies in its unparalleled range of applicability. (P. H. S., Dept. H. E. W.)

11 Medical News, the first newspaper issued exclusively for the medical profession, began publication on September 12. CIBA pharmaceutical Products Inc., will distribute the 8-page, tabloid-size newspaper free of charge to physicians every other week. (CIBA)

12 The 23rd death following the use of phenylbutazone is reported. The literature concerning the toxicity of this drug is extensive, and serious reactions have been encountered in the skin, gastrointestinal tract, liver, kidney, and bone marrow, as well as in other organs. These reactions do not appear to be related to dosage or duration of treatment. (New England J. Med., 8 September 1955; E. F. Mauer, M. D.)

13 It is believed that the Knott technique of blood irradiation therapy can be relied upon to terminate promptly an acute attack of viral hepatitis, to prevent recurrences, and to arrest liver damage. (Am. J. Surgery, September, 1955; R. C. Olney, M. D.)

14 This article reports experience with two forms of I^{131} therapy in multiple myeloma: (a) massive doses of the isotope in patients pretreated with stable iodide; and (b) radioactive iodinated serum albumin (RISA) (Radiology, August 1955; T. P. Kriss, M.D. et al.)

15 The incidence, associated fetal mortality, influencing factors, and general consideration of umbilical cord anoxia are summarized. (Am. J. Obst. & Gynec., September 1955; W.F. Baden, M.D.)

* * * * *

Recent Research Projects

Naval Medical Research Institute, NNMC, Bethesda, Md.

- 1 If an Enzyme-Substrate Modifier System Exhibits Non-Competitive Interaction, then, in general, its Michaelis Constant is an Equilibrium Constant. NM 000 018.11.02, 13 May 1955.
- 2 The Physiological Basis of Uncontrolled Cross-Circulation in Dogs. NM 007 081.21.01, 17 May 1955.
- 3 Stimulation of Erythropoiesis in Irradiated Dogs and Rats. NM 006 012.05.14, 23 May 1955.
- 4 Studies on Fecal Dissemination Aboard Ship Using Bacillus Globigii as a Tracer Organism. NM 005 048.04.17, 25 May 1955.

Naval Dental School, NNMC, Bethesda, Md.

- 1 Classification of Microorganisms from the Pulp Canal of Nonvital Teeth. NM 008 015.10.01.
- 2 A Pilot Research Study on the Efficiency of a Control Device for Conserving Fresh Water in the Naval Establishment. NM 008 015 (Pilot), 1 August 1955.

Naval Medical Research Unit No. 3, Cairo, Egypt

- 1 The Classification of Carcinoma of the Urinary Bladder Associated with Schistosomiasis and Metaplasia. NM 007 082.31.03.
- 2 The Relationship of Schistosomiasis to Polyposis and Adenocarcinoma of the Recto-Colon. NM 007 082.24.02.
- 3 Two New Jerboas from Egypt. NM 005 050.39.41.
- 4 West Nile Virus Infection in Arthropods. NM 005 050.42.02.

Naval Medical Research Unit No. 4, Great Lakes, Ill.

- 1 Studies on Streptococcal M Protein Antibody and Its Relation to Immunity. NM 005 051.21, 5 April 1955.
- 2 The Epidemiology of Beta Hemolytic Streptococci Among Navy Recruits. I. The Role of the New Recruit in Streptococcal Epidemics. NM 005 051.04.04, 1 June 1955.

Naval Air Material Center, Aero Medical Equipment Laboratory, Phila. Pa.

- 1 Suit, Exposure, Life Saver (MCN-8522), Exploitation of. Report XG-L-103-755, 31 March 1955.
- 2 American Optical Company Goggle No. 700A with Air Filter; Evaluation of, TED No. NAM AE-1401. Report XG-L-101-755, 12 July 1955.
- 3 Helmets, Flying and Protective; Evaluation of Bill Jack Sound Absorb Helmet. TED NAM AE 5209.3. Report XG-T-259, 21 July 1955.
- 4 Helmets, Flying and Protective; Evaluation of General Textiles Mills, Inc. H-5 Type TED NAM AE 5209.3. Report XG-L-104-855, 3 August 1955.
- 5 Glowmeter Instrument Presentation: a Comparison of the Effects of Two Methods of Dial Illumination on Readability. Report TED NAM AE-7047.12, 12 August 1955.
- 6 Douglas A4D-1 Seat Pan with Emergency Oxygen Supply and Connections for Use with Oxygen Mask Regulator; Evaluation of. TED NAM AE 5138. Report XG-T-262, 31 August 1955.

* * * * *

BUMED NOTICE 12000

22 August 1955

From: Chief, Bureau of Medicine and Surgery
To: National Naval Medical Center
Naval Hospitals
Naval Dispensaries

Subj: Nursing Assistant Series, GS-621-0; instructions for utilization of

Encl: (1) Qualification Standards - Nursing Assistant GS-621-0
(2) Copy U.S. Civil Service Commission ltr of 25 July 1955

This notice informs addressees of the establishment of the Nursing Assistant Series, GS-621-0, and of the action which will be required for use of the new series.

* * * * *

BUMED INSTRUCTION 6710.19

26 August 1955

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations
Subj: Defective medical and dental material; authority for disposition of
Ref: (a) Medical and Dental Materiel Bulletin, Edition No. 57 dtd
1 Aug 1955
(b) Art. 25-21, ManMedDept

This instruction provides authority for the disposal of defective material listed in paragraph IV of reference (a).

* * * * *

BUMED NOTICE 6010

8 September 1955

From: Chief, Bureau of Medicine and Surgery
To: All Naval Hospitals
Subj: Reduction in length of stay of active-duty patients in naval hospitals
Ref: (a) BuMedInst 6010.1A of 22 Apr 1953

This notice reemphasizes the importance of continually seeking out and correcting any factor which may be adversely affecting the length of patient stay.

* * * * *

BUMED NOTICE 6820

8 September 1955

From: Chief, Bureau of Medicine and Surgery
To: Activities Under Management Control or Financial Responsibility of the Bureau, and the U. S. Naval School of Aviation Medicine
Subj: Professional periodicals; subscriptions to

This notice brings to the attention of addressees the necessity of early procurement of subscriptions to professional journals required for calendar year 1956.

* * * * *

BUMED INSTRUCTION 6230.8

16 September 1955

From: Chief, Bureau of Medicine and Surgery

To: All Ships and Stations

Subj: Poliomyelitis; immunization of dependents against

Ref: (a) AlNavSta 4 (BuMedNote 6230) of 7 Apr 1955
(b) AlStaOut 1 (BuMedNote 6230) of 19 Apr 1955
(c) AlStaCon 3 (BuMedNote 6230) of 3 May 1955
(d) AlStaOut 3 (BuMedNote 6230) of 27 Jul 1955

This instruction promulgates information and instructions concerning procurement and use of poliomyelitis vaccine.

* * * * *

BUMED INSTRUCTION 6010.5A

16 September 1955

From: Chief, Bureau of Medicine and Surgery

To: All Naval Hospitals and Stations Having Station Hospitals and
Infirmaries

Subj: Uncollectible accounts receivable

Ref: (a) BuPersInst 1620.2 re personal indebtedness complaints
concerning naval personnel
(b) Chap. 15, pt. E, vol. I, MarCorpsMan
(c) Par. 033018-2b(1), NavComptMan
(d) BuMedInst 6010.2A re accounting procedures for collection
agents (NOTAL)

This instruction prescribes a uniform policy and procedure to be followed by addressees (1) for attempting collection of unpaid accounts without recourse to law, (2) for reporting to the Bureau of Medicine and Surgery accounts determined uncollectible through means available to the facility, and (3) for removing from the formal accounting records of the facility those accounts reported to the Bureau of Medicine and Surgery as uncollectible. BuMed Instruction 6010.5 of 26 March 1954 is canceled.

* * * * *



MEDICAL RESERVE SECTION

Navy's First Senior Medical Student Selected

Ensign David A. Gehring, 1995, USNR, is the first senior medical student to be selected for enrollment in the Navy's new Ensign, 1995, Senior Medical Student Program.

The Surgeon General of the Navy, on September 2, 1955, approved the findings of a professional board which recommended this selection. Ensign Gehring is a senior at the University of Pittsburgh School of Medicine. His premedical training was obtained at the University of Pittsburgh, and he has been an Ensign, 1995, U.S. Naval Reserve, since May 28, 1952. In anticipation of a career in Navy medicine, Ensign Gehring has completed seven Navy Correspondence Courses concurrently with fulfilling his academic duties at medical school, and maintaining a high scholastic standing in the upper third of his class. His over-all average mark for these courses was 98.

Ensign Gehring participated in fourteen days active duty for training in August, 1952, and served sixty days active duty under the Clinical Clerkship Training Program at the U.S. Naval Hospital, Philadelphia, Pa., during July and August of 1954. Upon his graduation from medical school in 1956, he intends to apply for a Navy Rotating Internship, and subsequently to apply for a naval residency and pursue a career in the Medical Corps of the Regular Navy.

* * * * *

New Curriculum for Hospital Apprentices

Prepared by the Eleventh Naval District and developed jointly by the Bureau of Medicine and Surgery and the Bureau of Naval Personnel, a new curriculum, designed to qualify inactive Naval Reserve hospital apprentices for advancement to hospitalmen, is now being distributed for use in pay and non-pay Reserve units throughout the nation.

The curriculum (NavPers 92142), based on the qualifications for advancement to hospitalman as set forth in the Manual of Qualifications for Advancement in Rating (NavPers 18068 revised), consists of sixteen drills

of two periods each with a detailed outline for each drill. It provides suggestions for the instructor; lists reference material available locally and at Naval District Training Aids Libraries, and homework assignments to be completed by the trainee before each drill.

Accompanying the curriculum is a workbook (NavPers 92143) which, when completed, provides the student with a chronological history of his class work and will serve as an added source of material for review and study in preparation for examinations.

In addition to the above, the Curriculum for Naval Reserve Training, Military Requirements for Pay Grade E3 (NavPers 9123) must be satisfactorily completed before the trainee is eligible for examination for advancement in rating. Bureau of Naval Personnel Notice 1550, dated 8 September 1955, announces details of the availability and the procurement of this new curriculum.

* * * * *



PREVENTIVE MEDICINE SECTION

Vaccination Against Influenza, Winter of 1955 - 1956

It is planned to again immunize all military personnel in the Army, Navy, and Air Force against influenza this fall. The vaccine will be offered to dependents on a voluntary basis and also to civilian employees of the Armed Forces in overseas areas. Target date for completion of the immunization program is again 15 November 1955, and issuance of a BuMed Instruction awaits only confirmation of delivery dates for the vaccine from manufacturers.

At the recommendation of the Commission on Influenza, Armed Forces Epidemiological Board, the virus components of the 1955 vaccine differ from those used in 1954. The 1955 vaccine contains equal amounts of the Swine and FM-1 strains of influenza A viruses and the Great Lakes 1954 strain of influenza B virus. This composition is expected to afford a broader coverage against strains which may become epidemic during the

coming winter, although it is probable that the 1954 vaccine, which contained the FM-1 and Conley strains of influenza A and the Lee strain of influenza B viruses, will also afford good protection against epidemic influenza.

During the winter, 1954 - 1955, many outbreaks of influenza B were reported from many parts of the world. There were no recognized outbreaks among military personnel who had been vaccinated, although two outbreaks in unvaccinated Navy personnel occurred. One of these, at Great Lakes Naval Training Center, occurred in new recruits, and the first reported isolation of influenza B virus in the United States during the past winter was from a recruit at this station who became ill in early December. Studies, made at Naval Medical Research Unit No. 4, indicated that the influenza B virus responsible for the outbreak during the winter of 1954 - 1955 was very closely related to strains isolated during an outbreak in March 1954 and more remotely related to the 1940 Lee strain of influenza B. The outbreak was of the type usually seen with influenza B virus, smoldering and protracted; the clinical illness was mild and of short duration.

It is probable that epidemic influenza A will occur in many parts of the world during the coming winter because the last major epidemic was in January 1953, and epidemics caused by this type of influenza virus usually occur in a two- to three-year cycle. A few influenza A infections were encountered in parts of England and the United States during the spring of 1955. The influenza A virus causing these infections was very similar to strains isolated in 1953, and the vaccine should afford good protection in possible epidemics caused by similar strains during the coming winter. (J. R. Seal, CDR MC USN, Preventive Medicine Division, Bureau of Medicine and Surgery)

* * * * *

The 1954 - 1955 Influenza Epidemic in the Northern Hemisphere

Epidemiological information concerning the influenza epidemic of late 1954 and early 1955 has appeared regularly in the WHO Weekly Epidemiological Record. While it is still too soon to be able to present a complete picture, some idea of the nature and extent of this epidemic can be obtained from information assembled from the Record and from other data made available to WHO. It is from these sources that the following description of the outbreaks in various countries has been drawn.

The first epidemics in the Northern Hemisphere were reported in Wales and the north-east of England in October 1954. These original

outbreaks affected schools and other communities in particular. At the end of the year and in January 1955, incidence increased among adults, and the infection spread to most parts of the country. It receded in February. It was found that virus B was largely responsible, although a few cases of influenza A were diagnosed in South Wales, the Midlands, and London.

Toward the middle of December 1954, a number of cases were reported in Slovenia, but it was not until January 1955 that outbreaks, affecting communities especially, were noted in other parts of Yugoslavia. The presence of influenza B was confirmed serologically. During the last week of February, incidence increased in Zagreb; and, in the first week of March, it also rose in Serbia, particularly in Belgrade.

At the beginning of January 1955, Canada reported the beginning of an epidemic, involving several hundred cases, in the area around Calgary, Alberta. Virus B was identified. In the last week of the month, the disease abated in this sector but an outbreak was noted in Ontario. This latter outbreak receded at the beginning of February, while a new focus appeared in Nelson, British Columbia.

About 7 January, the Netherlands were affected, with an outbreak in Den Helder (northern Holland). By the middle of February, influenza had spread throughout the rest of the country, especially among children. There were a few deaths attributed to secondary staphylococcus pneumonia. The presence of type B virus was confirmed by virological and serological tests on sample cases from several provinces.

In the second half of January, there was an increase in cases of rhinopharyngitis in the Federal Republic of Germany, especially in the Bremen-Hamburg-Lübeck area and mainly among children and young adults. The infection remained mild until the beginning of February. An epidemic also developed in Hesse, particularly in the Frankfurt-Hochst region (from the middle of January) and at Wiesbaden (at the end of the month). The infection proved to be very contagious and affected 30 to 40% of school-children in towns and more than 50% in rural areas. At the end of January, nearly 10% of the adults were also affected. From 16 to 22 January, notifications increased in the south, in Lower Franconia (Bavaria). During the first week of February, the epidemic spread to the Rhine area (except, apparently for the left bank), the region of the Main, Schleswig-Holstein, and Bavaria (Franconia), where the main focus seemed to be located. In the second half of February, the infection receded in the north (Lower Saxony, North Rhine, Westphalia), after having affected nearly 15% of the population. At the beginning of March, the situation improved in Hesse, while morbidity continued to increase in the south-east (Swabia, Upper and Lower Bavaria). During these epidemics the presence of virus B was demonstrated by the complement-fixation and Hirst methods. Virus A was also demonstrated in certain cases in the central and northern parts of the country.

Also, in the second half of January, a focus of influenza infection appeared in Helsinki (Finland), mainly affecting children. Among 20,000 schoolchildren under observation, the absence rates for the weeks ending 22 January, 29 January, and 5 February rose successively from a normal level of 4.5% to 4.8%, 19.5%, and 25.4%. A strain of influenza virus was isolated which was serologically related to the B strains isolated in England.

During the same period, a relatively mild epidemic of influenza B was reported in Japan among primary schoolchildren of the prefectures of Chiba and Yamanashi (Honshu Island). At the beginning of February, the disease spread to the primary schools of Tokyo and to several other prefectures of Honshu.

In the USA, absences among the schoolchildren of Portland and the County of Multnomah, Oregon, increased from the beginning of February because of an unusual prevalence of respiratory infections. Reports received in mid-February indicated a large number of cases of influenza-like infections in Syracuse, New York, and in Maine.

In Austria, notifications of cases of influenza increased rapidly from the first week of February and began to fall off in the second week of March in the greater part of the country, with the exception of the northeast (Upper and Lower Austria and the region of Vienna).

Also, during the first week of February, influenza morbidity increased in Oslo, Sweden, and Switzerland. These outbreaks reached their maximum during the week ending 19 March.

Finally, at the end of February, outbreaks affecting principally children and young adults and reaching their peak in the first week of March began to appear in the center and north of Sweden (districts of Örebro and Boden).

In summary, the influenza epidemic of 1954 - 1955 was mild, causing relatively few deaths, and was similar to previous epidemics which seem to have followed each other at intervals of two or three years since the great pandemic of 1918.

* * * * *

Disinfectants for General Navy Use

A study on practical aspects of surface disinfectants was conducted recently by the Industrial Test Laboratory, Philadelphia Naval Shipyard Philadelphia, Pa. The summary of the report of the study is quoted for the information of all Medical Department personnel.

"Findings

1 A new performance test procedure was developed which closely simulates use conditions. This procedure has been found to be satisfactory

for specifications purposes.

2 Precleaning of nonporous surfaces before disinfection is a valuable contribution to the over-all decontamination of such surfaces. However, precleaning of porous surfaces, as commonly practiced, does not significantly contribute to the over-all efficiency of disinfection.

3 Porous surfaces, such as asphalt tile and linoleum, are difficult to disinfect. The use of long exposure times and double treatments with germicide results in a significant increase in germicidal efficiency on porous surfaces. The waxing of porous surfaces does not alter the germicidal efficiency attained thereon.

4 Disinfection of porous surfaces can be enhanced markedly by daily, routine applications of germicide.

5 The study provided a basis for a new purchase specification for general purpose disinfectants (primarily for use on walls and floors). The tests included are designed to evaluate efficiency under the actual use conditions. The new specification will be issued as a revision of Interim Federal Specification 0-D-406 (Navy, Ships). It is expected that in the future all stock disinfectants will be bought under the new specification.

6 A number of commercially available products have already been found suitable for use. Testing of others is provided for. The specification will provide for procurement on a competitive performance basis, rather than proprietary purchases.

7 Provisions are made to protect users against undue skin irritation or other toxic effects.

8 Tests have shown that prolonged immersion in these disinfectants may affect rubber or plastic items adversely. Label directions call for limiting immersion of such items, preferably by substituting swabbing techniques for total immersion wherever practical."

* * * * *

Hazards from Faulty Check Valves in Potable Water Systems

The following excerpt from a recent Monthly Industrial Health Report from the U.S. Naval Shipyard, New York, should be of interest to all Medical Department personnel, and especially to those responsible for vigilance over potable water supplies:

"An investigation was made of a complaint about the potable water supply aboard a naval vessel which was using the shipyard water during its period of overhaul. The complaint was that the water had a bitter taste and a bubbly appearance and that it turned bluish-green in contact with soap. A large portion of the ship was affected.

Samples of water taken for bacteriological analysis were negative. By chemical analysis, the water samples were found to contain up to 403 ppm of carbon dioxide, pH 5.1, 88 ppm total solids, and 64 ppm copper. A dockside sample of water taken at this time contained 1 ppm carbon dioxide, pH 7.2, 10 ppm total solids, and 0.2 ppm copper.

Since the ship's soda fountains were not connected, the only source of carbon dioxide on the ship was a group of several carbonated beverage dispensing machines temporarily connected to the water system on the hangar deck while the ship was in port. When these dispensing machines were disconnected and the water system flushed out, the water supply quickly returned to normal. Apparently, the check valve on one or more of these machines had broken down, permitting gas from the carbon dioxide cylinders to lead through the system, carbonating and acidifying the water. It was learned that the copper and brass fittings of the water system are readily attacked by solutions having a pH of about 5 or less, hence the accumulation of copper in these samples. The blue-green discoloration in the presence of soap is produced by reaction of the dissolved copper with alkali metals and/or amino compounds generally contained in soaps or detergents as currently manufactured. "

In this particular incident, there were no confirmed instances of illness from drinking the contaminated water. More serious consequences could have developed, however, if the hazard had not been corrected in time. Most references on toxicology agree that chronic copper poisoning may result in gastrointestinal disturbances and anemia.

The fatal dose of copper is unknown, but the ingestion of thirty times the allowable maximum limitation for this substance in potable water for any considerable period of time certainly represents a toxic hazard.

It is of the utmost importance that competent engineers review any connections to potable water lines and ascertain the safety of regulatory valves against backflow. It is also important that such valves be checked frequently for proper operation and that chemical and bacteriological analyses be employed in accordance with current regulations to ensure that contamination of potable water supplies is not occurring.

* * * * *

Radiological Hazard from Self-Luminous Markers

An unsafe radiological situation involving self-luminous markers containing radium sulphate was encountered aboard a naval vessel during the removal of damaged markers for disposal.

A total of 268 radium-sulphate markers, BuShips Ad Interim Specification 17-1-26 (INT), Type D-2, which had been damaged by heavy personnel traffic, were removed from various points on the wood deck and the metal ladders. Residual radioactivity in the areas that had been occupied by the markers was measured by means of Radiacmeter AN/PDR-10A. Very high indications of alpha radiation with a maximum of 10,000 disintegrations per minute were recorded. It is to be noted that Radiological Safety Regulations (NavMed 1325) defines the safe reading as being no disintegrations per minute.

Removal of the markers and subsequent decontamination of the "hot spots" left on the decks and ladders was accomplished in the following manner:

- 1 Before the retaining screws were removed, cloth adhesive tape was placed over the defective buttons to prevent further spillage of the contents of the buttons during removal.

- 2 Ship surfaces were lightly scraped, monitored, and rescraped as necessary to reduce residual contamination to safe limits. As much as one-sixteenth inch of wood was removed in some instances. In general, only a negligible amount of removable contamination remained after the scraping operation. In five isolated check locations, removable contamination, measured by wipe-sampling procedures and Model AN/UDR-9 radiac equipment, was found to be less than 10 disintegrations per minute.

- 3 Two coats of paint were applied to all scraped surfaces where necessary. Subsequent monitoring revealed no detectable contamination.

- 4 Screw holes were reamed, white leaded, and plugged with wooden dowels.

The ships personnel assisted in the monitoring and decontamination operations, and were advised that similar procedures should be utilized in the event of future breakage of remaining markers. The ship was advised that precautionary measures should be taken in the event of any future scraping in the affected areas, when loose contamination might again become a hazard.

After removal, the broken markers were examined and the following general conditions were noted:

- 1 Breakage or other damage to the top section of the polystyrene cell had broken the cement bond holding the coated disc in the recess on

the under side of the plastic cell. The radioactive substance was thus permitted to sift into the bezel, the outer metal case of the assembly.

2 Presumably, through salt water corrosion or electrolytic action, part of the metal bezel had disintegrated and any radium sulphate which had leaked into the bezel then passed through to the deck or ladder surfaces.

It is believed that similar potential health hazards may exist to a greater or lesser degree in a substantial number of fleet vessels. (San Francisco Shipyard)

* * * * *

Meat Salads as a Source of Food Intoxication

Studies are being conducted by the U.S. Navy Preventive Medicine Unit No. 6 to determine the frequency of recovery of staphylococcus organisms from meat salads which are likely to be toxigenic. The result of these studies is of interest to Medical Department personnel connected with training of food-service personnel or conducting inspections of food-service facilities.

In utilizing several laboratory methods, the following data were gathered from 39 meat salads of which 38 were canned tuna and 1 was turkey. Two additional samples were egg salad. The samples tested were from two sources. After preparation, the salads from source one were placed in a refrigerator having an average temperature of 47° F. The salads from source two were placed in a tray in a refrigerated sandwich preparation area. All samples were collected within an hour after the salads were prepared.

The number of recoveries from the 41 salads of those types of organisms, generally associated with food poisoning and/or as indicators of contamination, are tabulated below.

Organisms Isolated

	<u>Initial test</u>	<u>After incubation at 70° F.</u>		
		1 hour	4 hours	24 hours
Coagulase, mannitol, hemolytic, and gelatin liquifying Staphylococci	2	3	9	29
Coagulase - Staphylococci	39	39	39	39
Escherichia coli	3	3	3	3
Aerobacter aerogenes	39	39	39	39
Salmonella-Shigella	0	0	0	0

Potential toxigenic staphylococci were apparently not introduced in large numbers into the meat salads examined as evidenced by only two initial recoveries. However, when these salads were held for 24 hours at room temperatures approaching those conducive to optimum bacterial growth (70° F. and above), the recovery rate of toxigenic staphylococci was increased approximately 15 times (2 vs. 29 of 41 specimens).

Coagulase negative staphylococci and Aerobacter aerogenes have been recovered routinely from meat salads that apparently have been prepared according to accepted sanitary methods.

These findings indicate that, even though meat salads are prepared in a sanitary manner by intelligent, trained personnel using good equipment, the salads are a probable source of food intoxication if they are held at "incubation" or "room" temperatures.

* * * * *

The printing of this publication has been approved by the Director of the Bureau of the Budget, 16 May 1955.

* * * * *

PENALTY FOR PRIVATE USE TO AVOID
PAYMENT OF POSTAGE, \$3.00

DEPARTMENT OF THE NAVY
BUREAU OF MEDICINE AND SURGERY
WASHINGTON 25, D. C.
OFFICIAL BUSINESS
Permit No. 1048